



Terms used

**EEPROM EPROM flash address polling most significant bit**

Found 1 of 182,223

Sort results  
by

relevance



[Save results to a Binder](#)

Display  
results

expanded form



[Search Tips](#)

☐ Open results in a new  
window

[Try an Advanced Search](#)

[Try this search in The ACM Guide](#)

Results 1 - 1 of 1

Relevance scale 

1 [The CAN microcluster: Parallel processing over the controller area network](#)



Paul A. Kuban, Rammohan K. Ragade

March 2005 **Journal on Educational Resources in Computing (JERIC)**, Volume 5 Issue 1

**Publisher:** ACM Press

Full text available:  pdf(242.37 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Most electrical engineering and computer science undergraduate programs include at least one course on microcontrollers and assembly language programming. Some departments offer legacy courses in C programming, but few include C programming from an embedded systems perspective, where it is still regularly used. Distributed computing and parallel processing are subjects generally reserved for graduate programs or specialized degrees. And although it is common to provide undergraduate courses on c ...

**Keywords:** CAN, Cluster, controller area network, distributed, embedded systems, microcontrollers, parallel



Welcome United States Patent and Trademark Office

☐ Search Session History[BROWSE](#)[SEARCH](#)[IEEE XPLORE GUIDE](#)

Fri, 21 Jul 2006, 2:04:50 PM EST

Edit an existing query or compose a new query in the Search Query Display.

Search Query Display

Select a search number (#) to:

- Add a query to the Search Query Display
- Combine search queries using AND, OR, or NOT
- Delete a search
- Run a search

Recent Search Queries

- |                            |  |
|----------------------------|--|
| <a href="#"><u>#1</u></a>  | (((memory address*) and poll*)<in>metadata)  |
| <a href="#"><u>#2</u></a>  | ((most significant bit) or MSB<IN>metadata)  |
| <a href="#"><u>#3</u></a>  | nonvolatile memory   |
| <a href="#"><u>#4</u></a>  | (EEPROM or EPROM OR PROM or ROM or FLASH <IN>metadata)   |
| <a href="#"><u>#5</u></a>  | ((top or bottom) and decod*<IN>metadata)   |
| <a href="#"><u>#6</u></a>  | (memory address pin<IN>metadata)   |
| <a href="#"><u>#7</u></a>  | (pin<IN>metadata)  |
| <a href="#"><u>#8</u></a>  | (((memory address*) and poll*)<in>metadata) <AND> (((most significant bit) or MSB<IN>metadata)   |
| <a href="#"><u>#9</u></a>  | ((EEPROM or EPROM OR PROM or ROM or FLASH <IN>metadata) <AND> (((top or bottom) and decod*<IN>metadata))   |
| <a href="#"><u>#10</u></a> | (((EEPROM or EPROM OR PROM or ROM or FLASH <IN>metadata) <AND> (((top or bottom) and decod*<IN>metadata))) <AND> (nonvolatile memory)  |
| <a href="#"><u>#11</u></a> | (((EEPROM or EPROM OR PROM or ROM or FLASH <IN>metadata) <AND> (((top or bottom) and decod*<IN>metadata))) <AND> (nonvolatile memory)) <AND> (((most significant bit) or MSB<IN>metadata)                            |
| <a href="#"><u>#12</u></a> | ((((EEPROM or EPROM OR PROM or ROM or FLASH <IN>metadata) <AND> (((top or bottom) and decod*<IN>metadata))) <AND> (nonvolatile memory)) <AND> (((most significant bit) or MSB<IN>metadata)) <AND> ((pin<IN>metadata) |

Indexed by  
 Inspect<sup>2</sup>

[Help](#) | [Contact Us](#) | [Privacy](#)

© Copyright 2006 IE



Welcome United States Patent and Trademark Office

☐ AbstractPlus

[BROWSE](#)


[SEARCH](#)

[IEEE XPLORE GUIDE](#)

[View Search Results](#)

☒ e-mail

Access this document

 Full Text: [PDF](#) (1080 KB)

Download this citation

Choose [Citation & Abstract](#)

Download [ASCII Text](#)

[» Learn More](#)

[Rights and Permissions](#)

[» Learn More](#)

## A 90-nm CMOS 1.8-V 2-Gb NAND flash memory for mass storage application

[Lee, J.](#) [Sung-Soo Lee](#) [Oh-Suk Kwon](#) [Kyeong-Han Lee](#) [Dae-Seok Byeon](#) [In-Young Kim](#) [Kyoung-Hwa Lee](#) [Youn Soon Choi](#) [Jong-Sik Lee](#) [Wang-Chul Shin](#) [Jeong-Hyuk Choi](#) [Kang-Deog Suh](#)  
Memory Div., Samsung Electron. Co. Ltd., Gyeonggi, South Korea

This paper appears in: [Solid-State Circuits, IEEE Journal of](#)

Publication Date: Nov. 2003

Volume: 38 , Issue: 11

On page(s): 1934 - 1942

ISSN: 0018-9200

INSPEC Accession Number: 7778183

Digital Object Identifier: 10.1109/JSSC.2003.818143

Posted online: 2003-10-27 09:52:48.0

### Abstract

A 1.8-V 2-Gb NAND flash memory has been successfully developed on a 90-nm CMOS STI process technology, resulting in a 2/3 die size and a 0.044-/sq μm effective cell. For the higher level integration, critical layers are patterned with The device has three notable differences from previous generations. 1) The cells are organized in a single (16K+512) cell array by adopting a one-sided row decoder in order to minimize the die size. 2) The bitline precharge level is set to 0.9 on-cell current. 3) During the program operations, the string select line, which connects the NAND cell strings to the bitline sub-V/sub CC/ in order to avoid program disturbance issues.

### Index Terms

Inspection

#### Controlled Indexing

[CMOS memory circuits](#) [NAND circuits](#) [flash memories](#) [integrated circuit layout](#) [memory architecture](#) [photolithography](#)

#### Non-controlled Indexing

[1.8 V](#) [2 Gbit](#) [90 nm](#) [CMOS NAND flash memory](#) [CMOS STI process technology](#) [KrF photolithography](#) [strings](#) [bitline precharge level](#) [block placement](#) [chip architecture](#) [critical layer patterning](#) [die size minimization](#) [effective cell](#) [higher level integration](#) [mass storage applications](#) [on-cell current](#) [one-sided row decoder](#) [disturbance avoidance](#) [string select line](#)

### Author Keywords

Not Available

### References

- 1 T. H. Cho, et al., "A dual-mode NAND flash memory: 1-Gb multilevel and high-performance 512-Mb single-level memory," *State Circuits*, vol. 36, pp. 1700-1706, Nov. 2001.  
[Abstract](#) | Full Text: [PDF](#) (295KB)
- 2 K. Imamiya, et al., "A 125-MHz 1-Gb NAND flash memory with 10-Mbyte/s program speed," *IEEE J. Solid-State Circuits*, vol. 37, pp. 1493-1501, Nov. 2002.  
[Abstract](#) | Full Text: [PDF](#) (849KB)
- 3 J. Lee, et al., "High-Performance 1-Gb NAND flash memory with 0.12-μm technology," *IEEE J. Solid-State Circuits*, vol. 37, pp. 1502-1509, Nov. 2002.  
[Abstract](#) | Full Text: [PDF](#) (696KB)
- 4 T. Tanaka, et al., "A quick intelligent page-programming architecture and a shielded bitline sensing method for 3 V memory," *IEEE J. Solid-State Circuits*, vol. 29, pp. 1366-1373, Nov. 1994.  
[Abstract](#) | Full Text: [PDF](#) (612KB)

- 5 K. D. Suh, et al., "A 3.3 V 32 Mb NAND flash memory with incremental step pulse programming scheme," *IEEE J.* vol. 30, pp. 1149-1156, Nov. 1995.  
[Abstract](#) | [Full Text: PDF](#) (1028KB)
- 6 K. Takeuchi, et al., "A source-line programming scheme for low-voltage operation NAND flash memories," *IEEE J.* vol. 35, pp. 672-681, May 2000.  
[Abstract](#) | [Full Text: PDF](#) (516KB)
- 7 S. Satoh, et al., "A novel channel boost capacitance (CBC) cell technology with low program disturbance suitable for 4 Gbit NAND flash memories," *Symp. VLSI Technol. Dig. Tech. Papers*, pp. 108-109, June 1998.  
[Abstract](#) | [Full Text: PDF](#) (212KB)

#### Citing Documents

No citing documents available on IEEE Xplore.

◀ [View Search Results](#)

Indexed by  
 Inspec

[Help](#) [Contact Us](#) [Privacy](#)  
© Copyright 2006 IEEE

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	22721220	@ad<"20020718"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:48
L2	8	(Antonino near2 Malfa).in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L3	12	(Salvatore near2 Poli).in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L4	12	(Paolino near2 Schillaci).in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L5	12	(Paolino near2 Schillaci).in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L6	12	(Salvatore near2 Poli).in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L7	8	(Antonino near2 Malfa).in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L8	6	L5 and L6 and L7	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L9	48036	nonvolatile adj memory	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51

## EAST Search History

L10	105924	flash adj memory	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L11	440041	eeeprom or eeprom or rom	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L12	35034	select\$4 adj memory	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L13	121677	select\$4 near3 memory	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L14	17311	decod\$4 same (top or bottom)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L15	121677	select\$4 near3 memory	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L16	17311	decod\$4 same (top or bottom)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L17	2928	L15 and L16	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L18	275	L15 same L16	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L19	1482538	pin\$2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51

## EAST Search History

L20	275	L15 same L16	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L21	1482538	pin\$2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L22	55	L20 and L21	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:51
L23	5	L20 same L21	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:52
L24	41331	(most adj significant adj bit) or MSB	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:53
L25	248	(memory adj address) same poll\$4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:54
L26	41	24 and 25	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:54
L27	0	23 and 26	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:54
L28	30010	"711"/\$.cccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:54
L29	73086	"365"/\$.cccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:55

## EAST Search History

L30	5	26 and 28	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:55
L31	3	26 and 29	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:56
L32	4	1 and 30	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:56
L33	3	1 and 31	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:56
L34	0	23 and 32	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:56
L35	0	23 and 33	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/07/21 13:56